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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,379	12/22/2000	Francois Pinier	Q62182	9416

7590 04/15/2004

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EXAMINER
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JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 04/15/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/742,379

Applicant(s)

PINIER, FRANCOIS

Examiner

Alexander Jamal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because the figure labeled 'Figure' should be labeled as 'Figure 1' as it is referred to in the specification as 'Figure 1'. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-15** rejected under 35 U.S.C. 103(a) as being unpatentable over Sambhwani et al. (5974138), and further in view of Monson Hayes (Statistical digital signal processing and modeling: "Spectrum Estimation").

As per **claim 1**, Sambhwani discloses a method of detecting a CAS (predefined signal) signal on a telephone line. The first step comprises applying a Fourier transform of the telecommunication signals over successive overlapping time intervals (Col 6 lines 11-26) to produce a spectral function. Another step is analyzing the spectral function to detect the presence of the CAS signal (Col 6 lines 26-43). However, Sambhwani does not disclose averaging the Fourier transform over the intervals to get an averaged spectral function.

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Hayes teaches that averaging a Fourier transform over time intervals will allow give a more consistent result (Pages 412-415). He also teaches that the intervals may be overlapping (Pages 415-416). It would have been obvious to one of ordinary skill in the art at the time of this application to average the Fourier Transform for the purpose of allowing a more accurate and consistent detection of the expected spectral function which will produce a more accurate detection of the CAS tone.

As per **claim 7**, Sambhwani discloses a telecommunications device with CAS detection that performs the same functions as the method listed in Claim1 (Fig. 2, CAS detector 150). Sambhwani's device in view of Hayes' teachings as per the Claim 1 rejection would inherently comprise a Fourier transform circuit and an analysis circuit for the purpose of performing the functions detailed in the claim 1 rejection.

As per **claim 2**, The time intervals are overlapped (Sambhwani: Col 6 lines 11-26) (Hayes: Pages 415-416).

As per **claims 3,4**, The overlaps are of the same duration and are at least overlapped for a quarter of the total interval duration (Hayes: page 415). The 50% overlap specified by Hayes would give each window an overlap of the same duration.

As per **claims 5,14**, The alert signal is a CAS signal (Sambhwani: ABSTRACT).

As per **claims 6,12,13**, Sambhwani's device inherently comprises a computer product with code to run the functions specified in the rejection of claim 1 for the purpose of providing instruction to the CAS detector 150 (Fig. 2). The device further inherently comprises the

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computer product being run on a processor for the purpose of providing the means (processor) of interfacing and controlling all the different circuitry in the device (Sambhwani: Col 4 lines 40-45).


As per **claims 8-10**, Hayes' discloses that the Fourier transform may use a windowing function such as a rectangular or blackman window (Hayes: Pages 408, 411).

As per **claim 11**, Sambhwani in view of Hayes' analysis circuit will compare the averages spectral function with any noise at the predefined frequency ranges (Sambhwani: Col 6 lines 20-45). The 'total energy' comprises the noise.

As per **claim 15**, The device disclosed by Sambhwani in view of Hayes is a predefined signaling detector to be coupled to an analog telecommunications line for the purpose of detecting a CAS signal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600